US007188976B1

(12) **United States Patent**
Fung

(10) **Patent No.: US 7,188,976 B1**
(45) **Date of Patent: Mar. 13, 2007**

(54) **DECORATIVE LAMP COVER**

(76) Inventor: **Duncan C. Fung**, 611 Walsing Dr., Richmond, VA (US) 23229

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 226 days.

(21) Appl. No.: **10/821,301**

(22) Filed: **Apr. 9, 2004**

Related U.S. Application Data

(63) Continuation-in-part of application No. 10/418,331, filed on Apr. 18, 2003, now Pat. No. 6,902,297, and a continuation-in-part of application No. 10/274,592, filed on Oct. 21, 2002, now Pat. No. 6,746,136.

(51) **Int. Cl.**
F21V 1/00 (2006.01)

(52) **U.S. Cl.** **362/351**; 362/255; 362/311; 362/153; 362/353

(58) **Field of Classification Search** 362/255, 362/311, 153, 153.1, 124, 351, 353, 808
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,822,088	A *	10/1998	Danno et al.	359/1
6,000,820	A *	12/1999	Murray	362/441
6,361,192	B1 *	3/2002	Fussell et al.	362/331

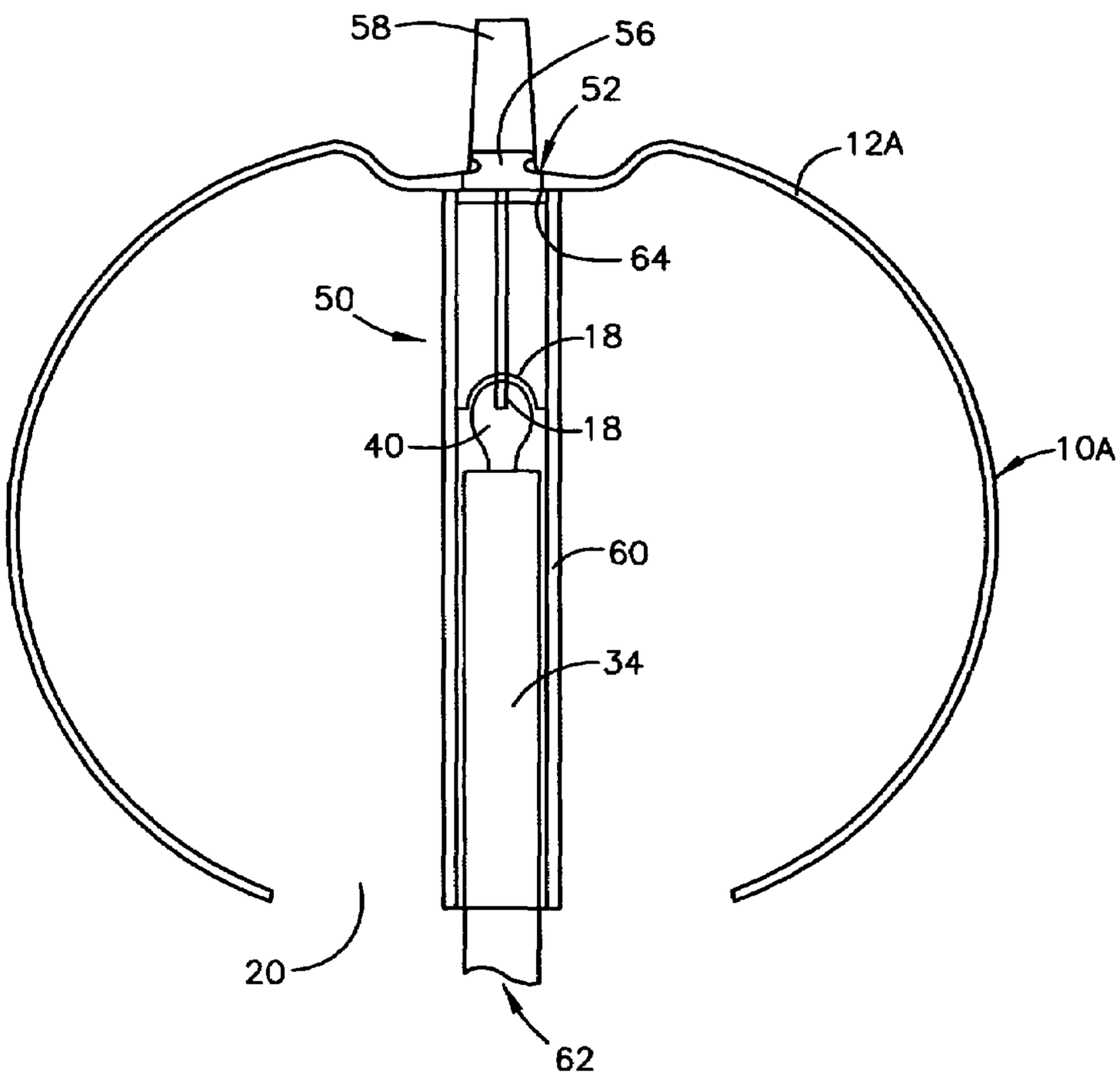
* cited by examiner

Primary Examiner—Laura K. Tso

(57) **ABSTRACT**

A lamp cover or shade comprising a hollow pliant shell having an exterior surface in the form of a decorative shape and an interior surface having pliant ribs extending inwardly from the interior surface, or an integral interior cylinder which ribs or cylinder are of a size and shape as to frictionally or elastically engage the exterior of a light fixture lens, bulb cover or bulb. According to a preferred embodiment, the lamp cover is fabricated from an elastic, pliable and high temperature resistant polymeric material that permits its close contact with a low voltage or conventional light bulbs.

4 Claims, 14 Drawing Sheets



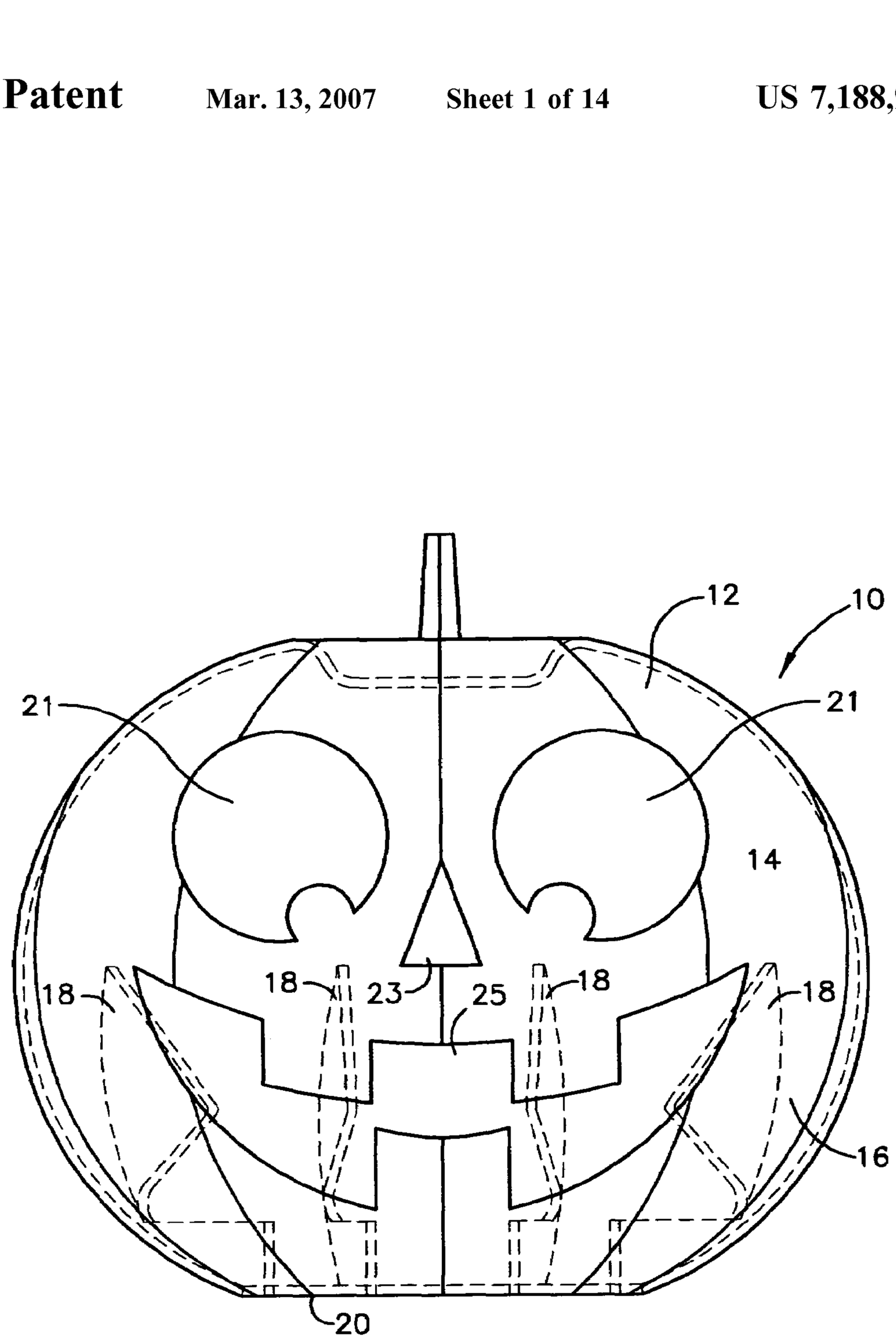


FIG. 1

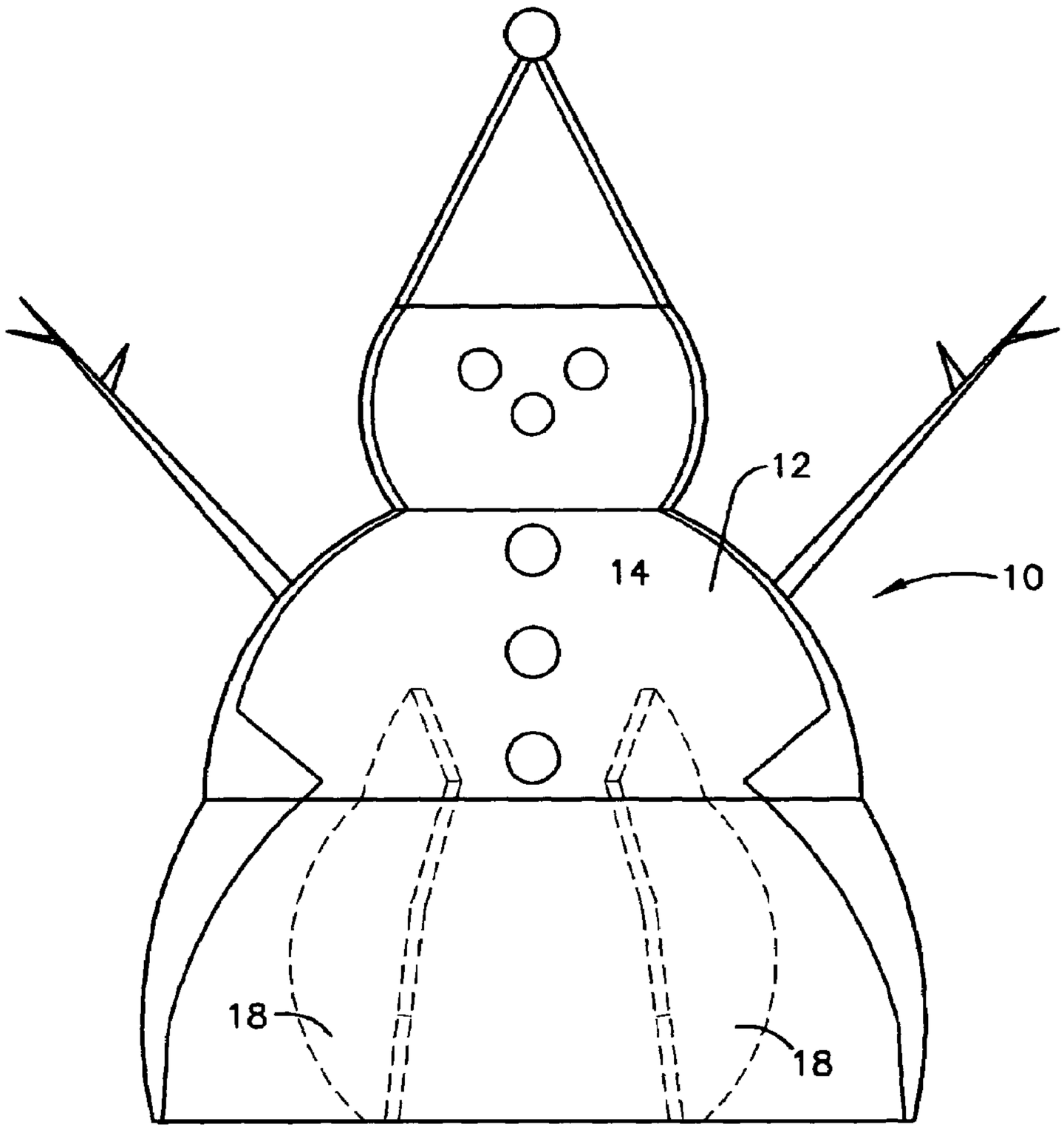


FIG. 1A

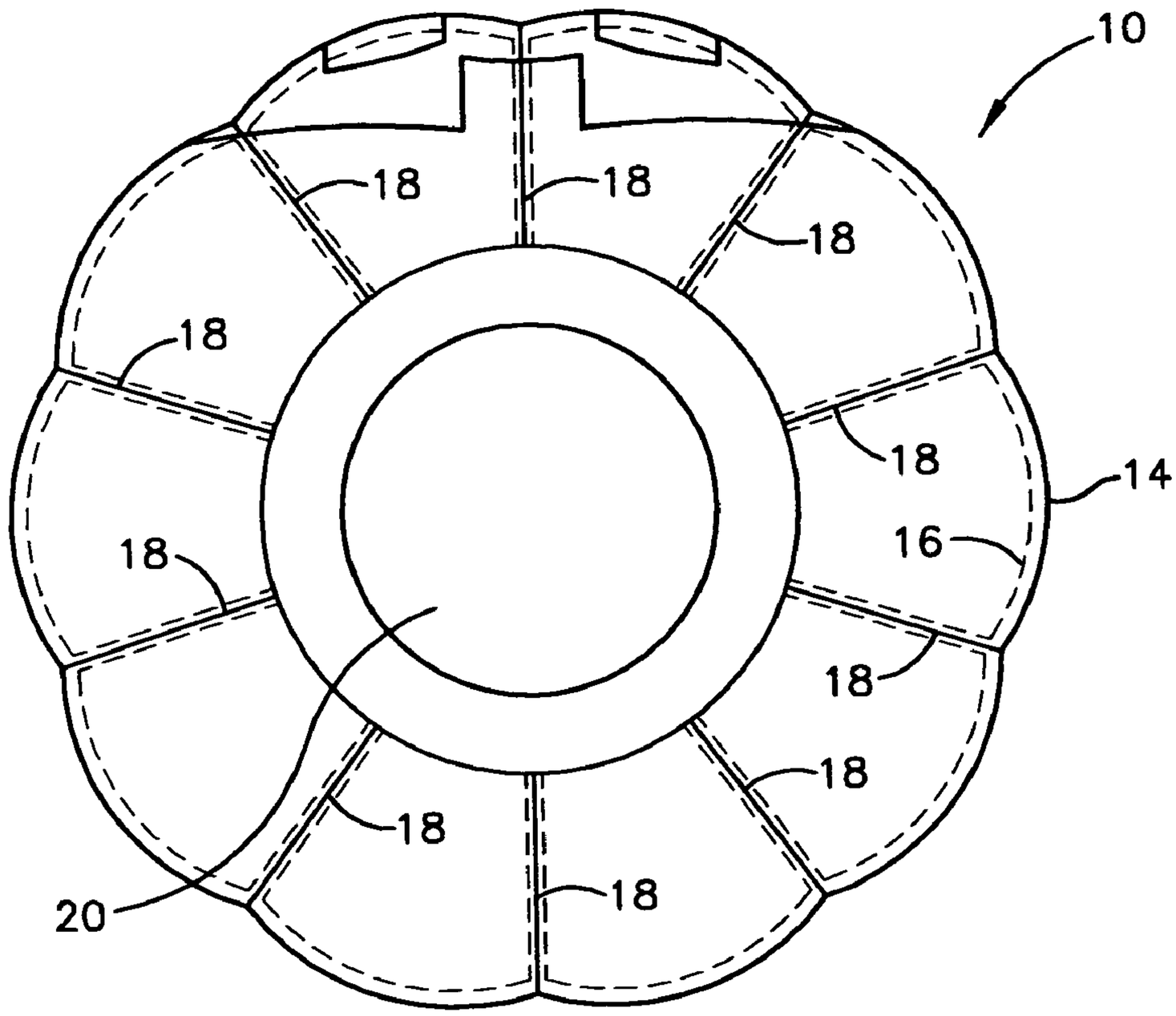


FIG. 2

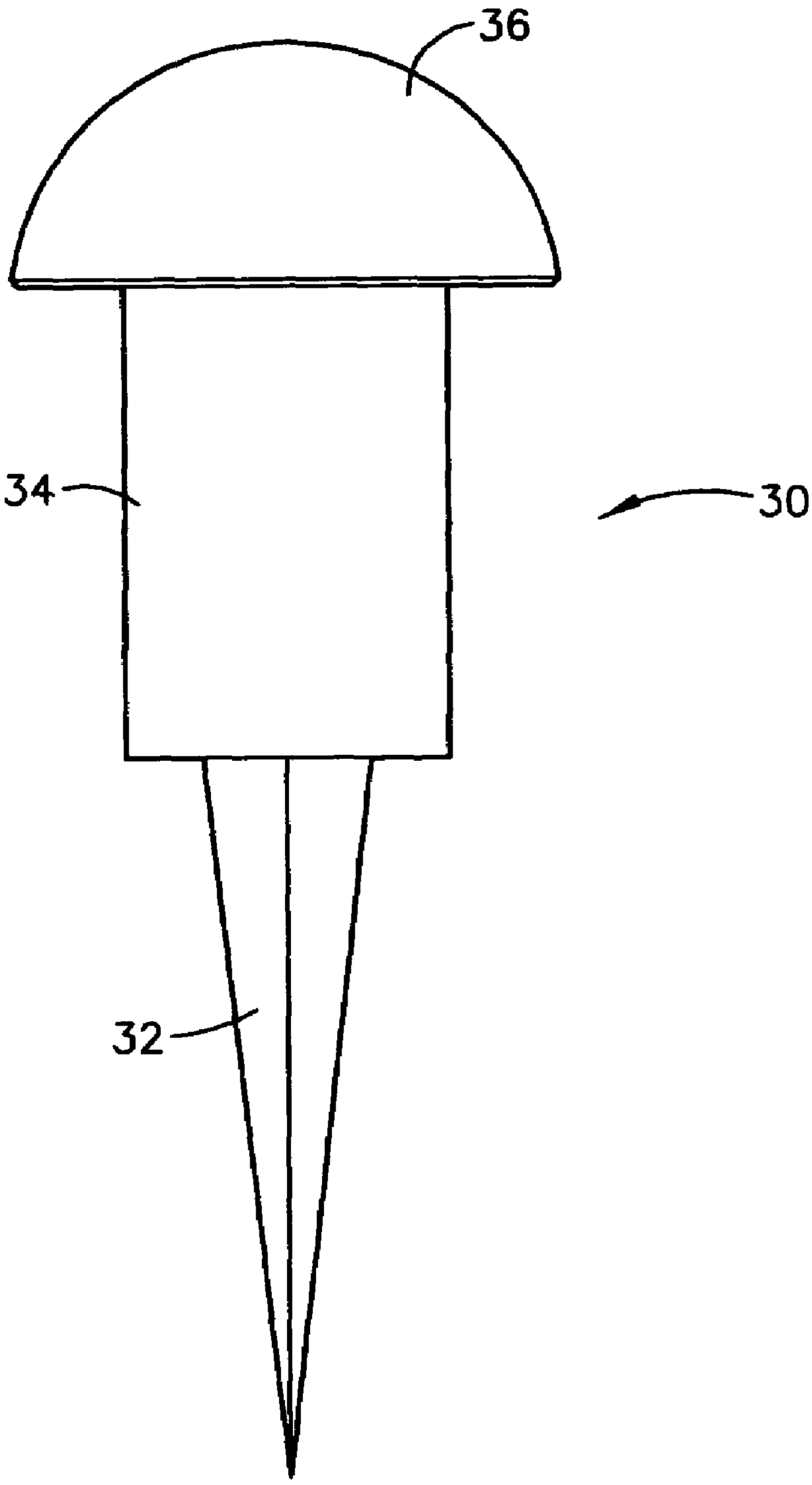


FIG. 3

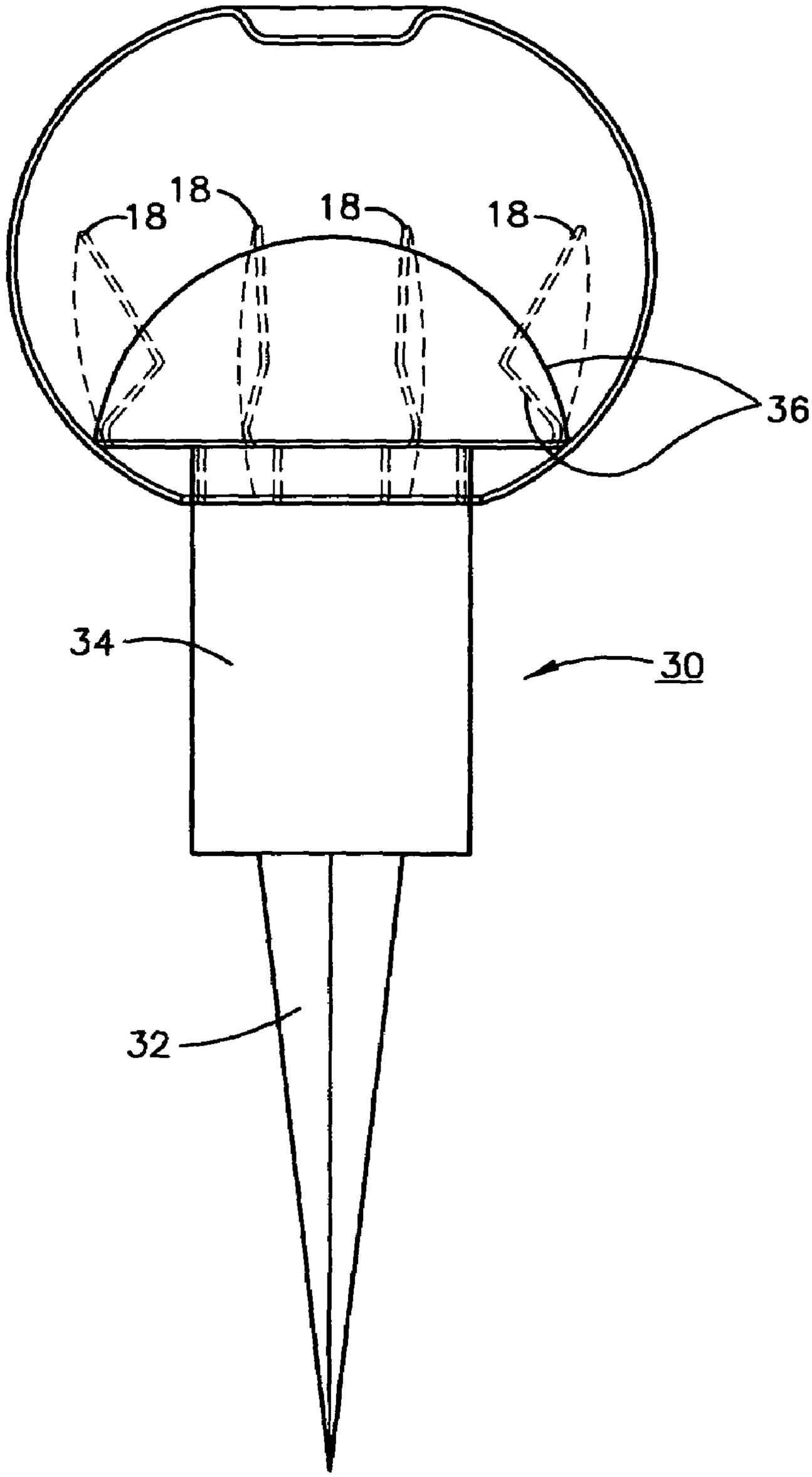


FIG. 4

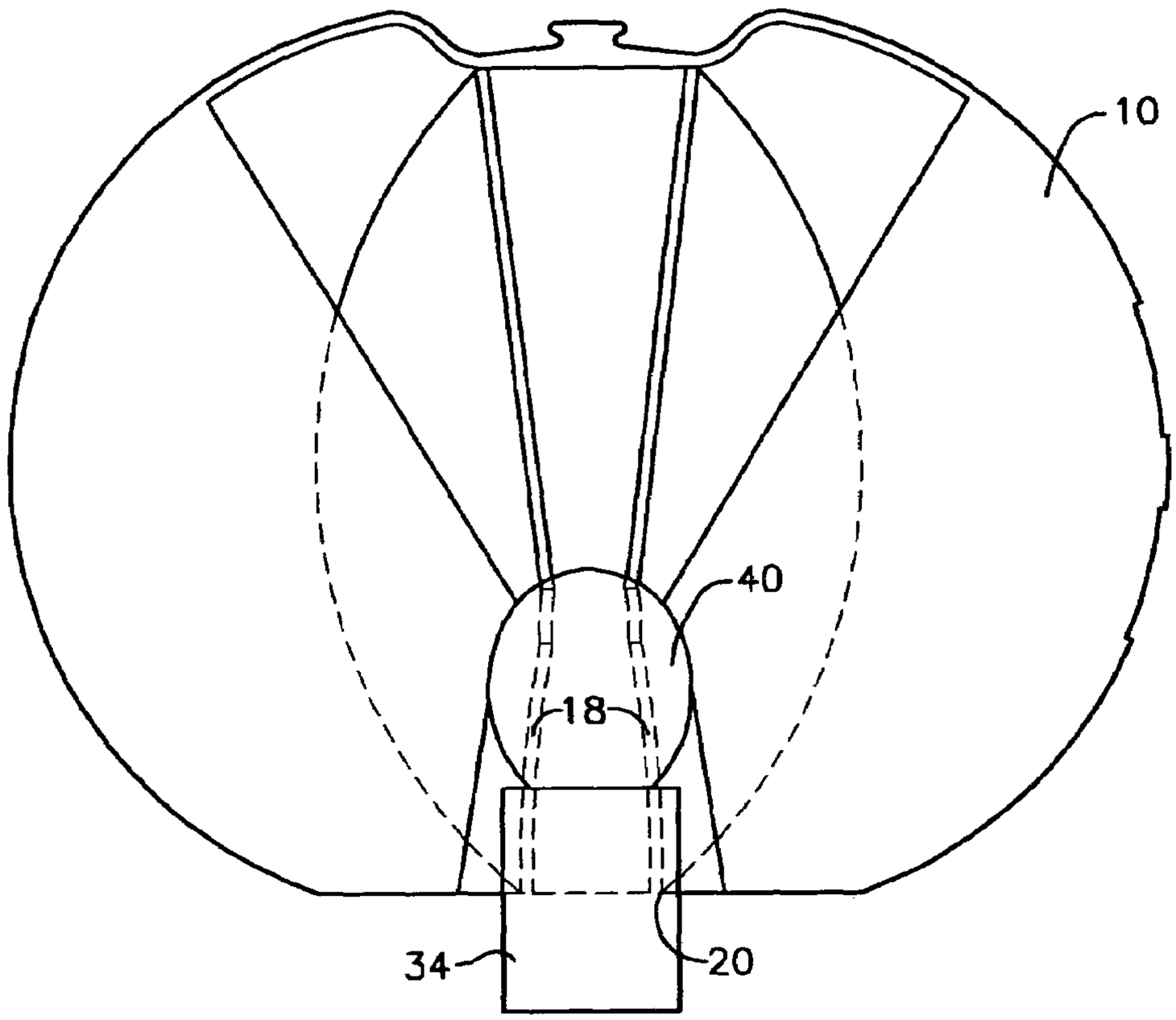


FIG. 5

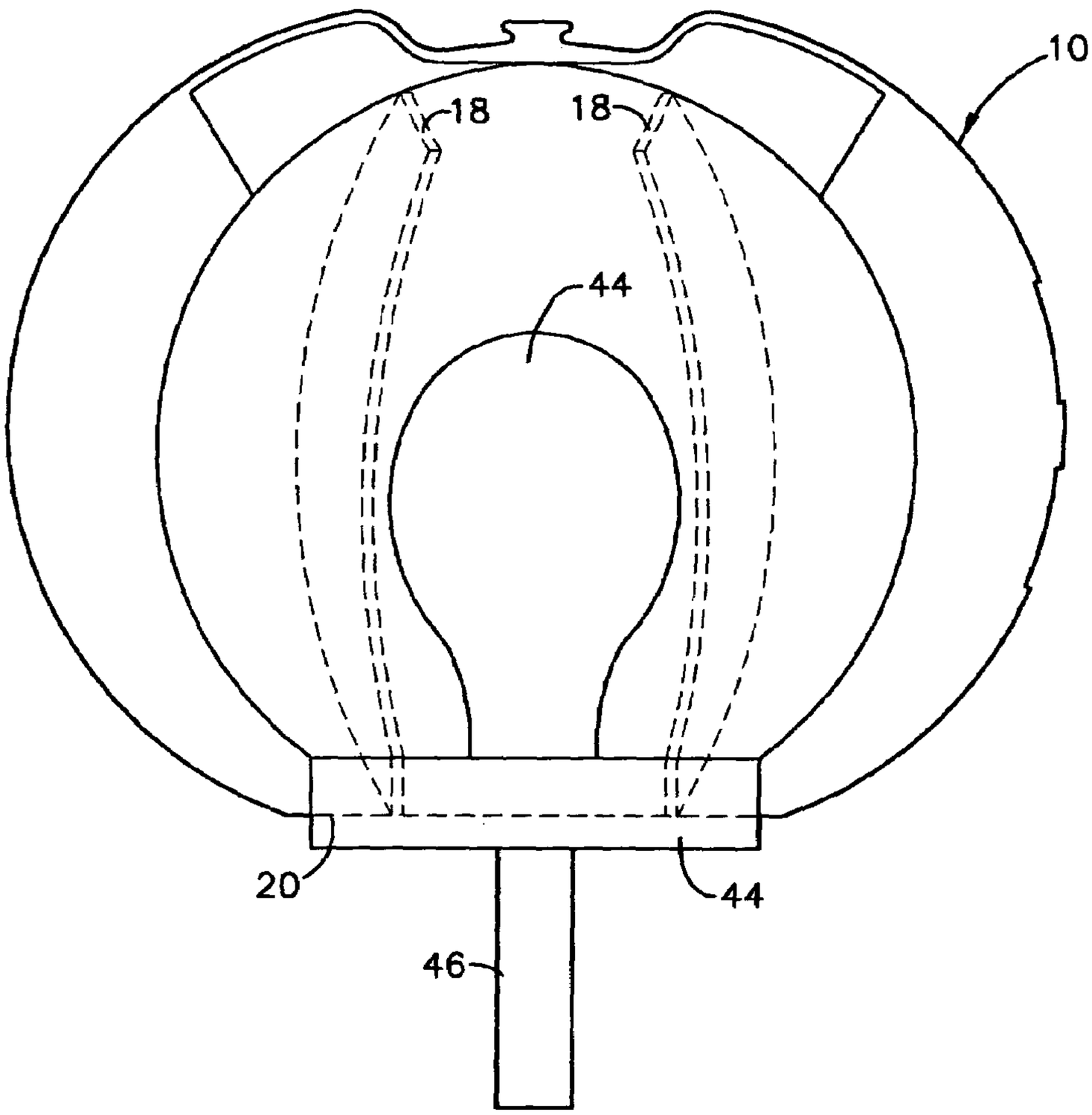


FIG. 6

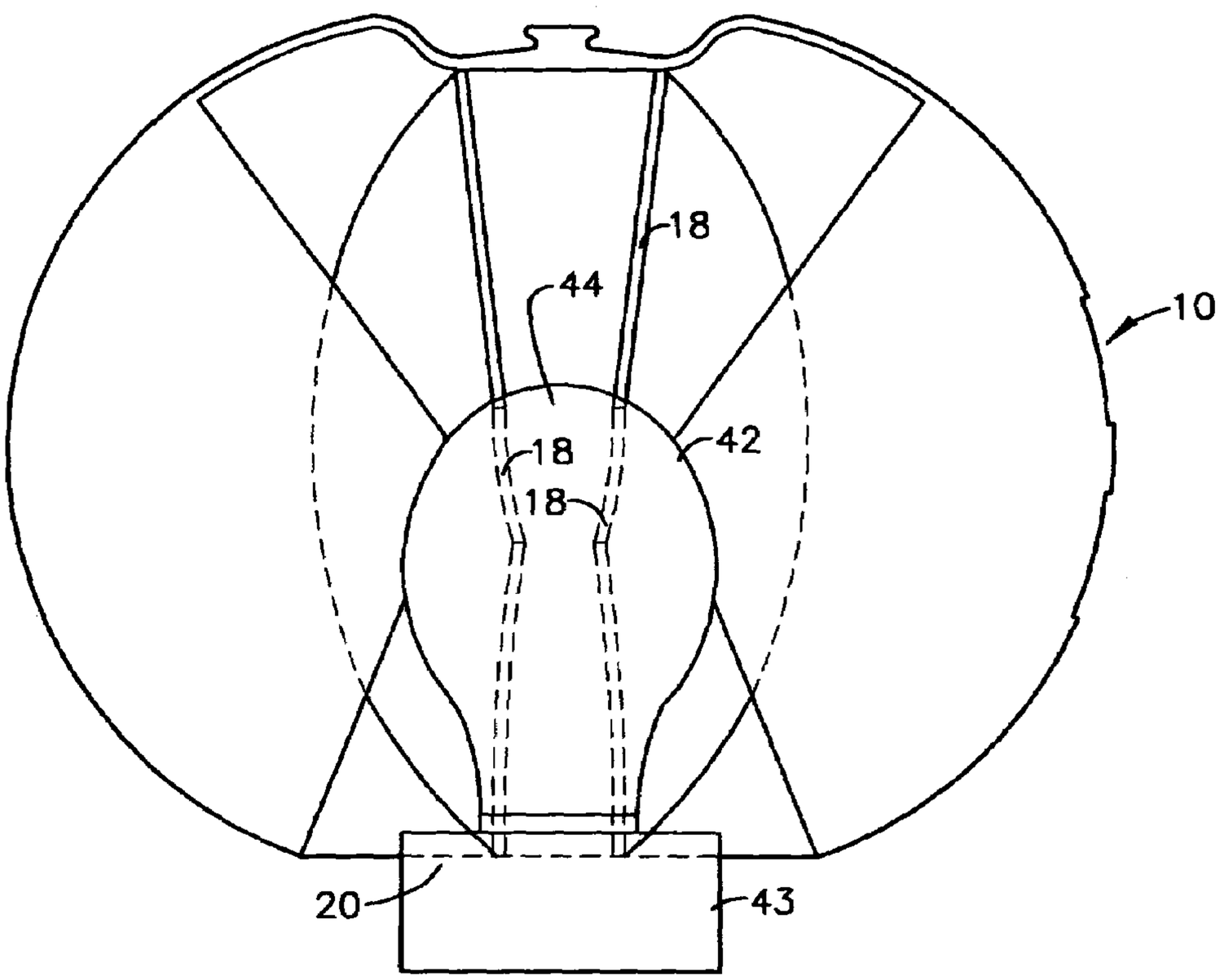


FIG. 7

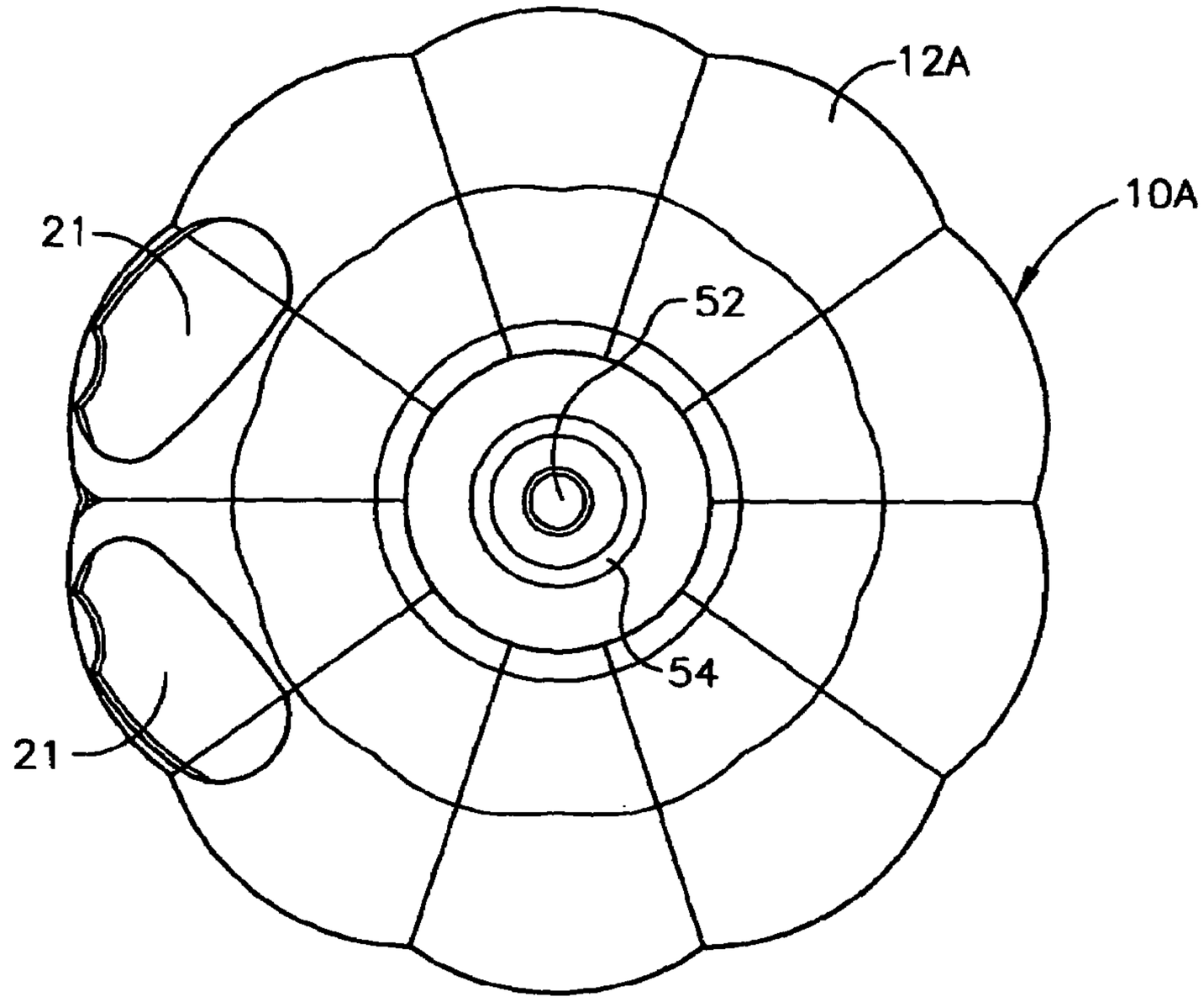


FIG. 8

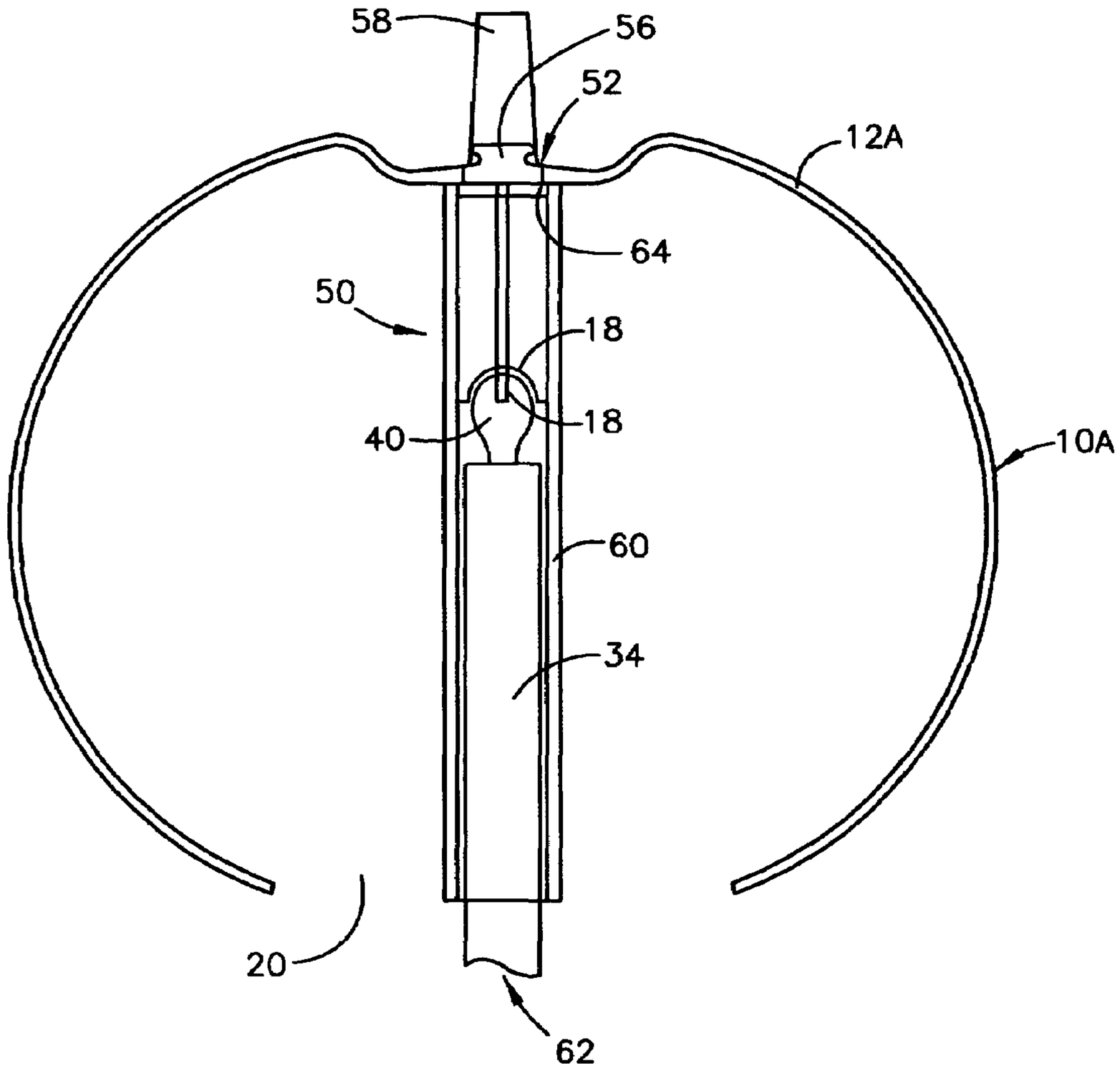


FIG. 9

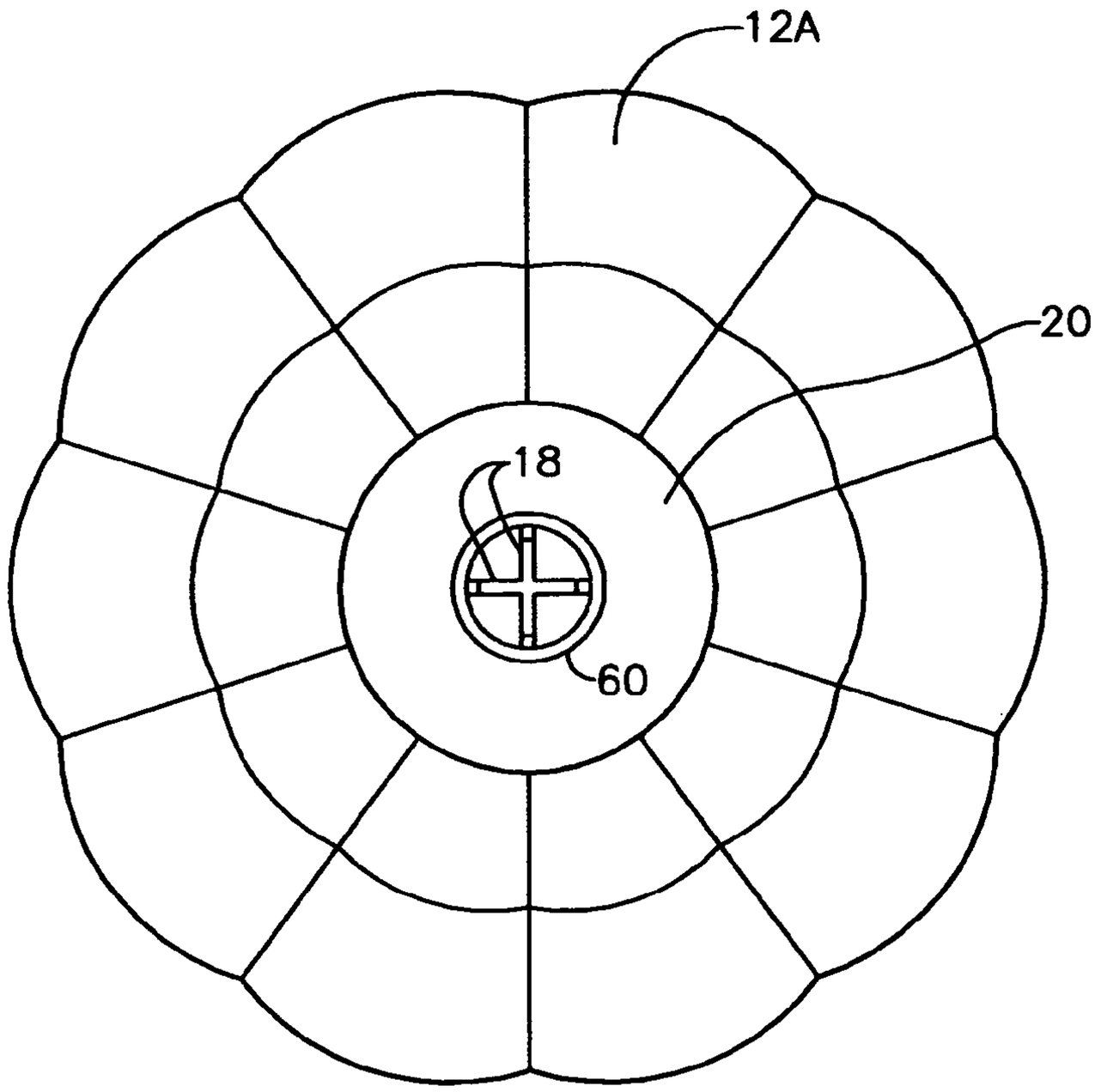


FIG. 10

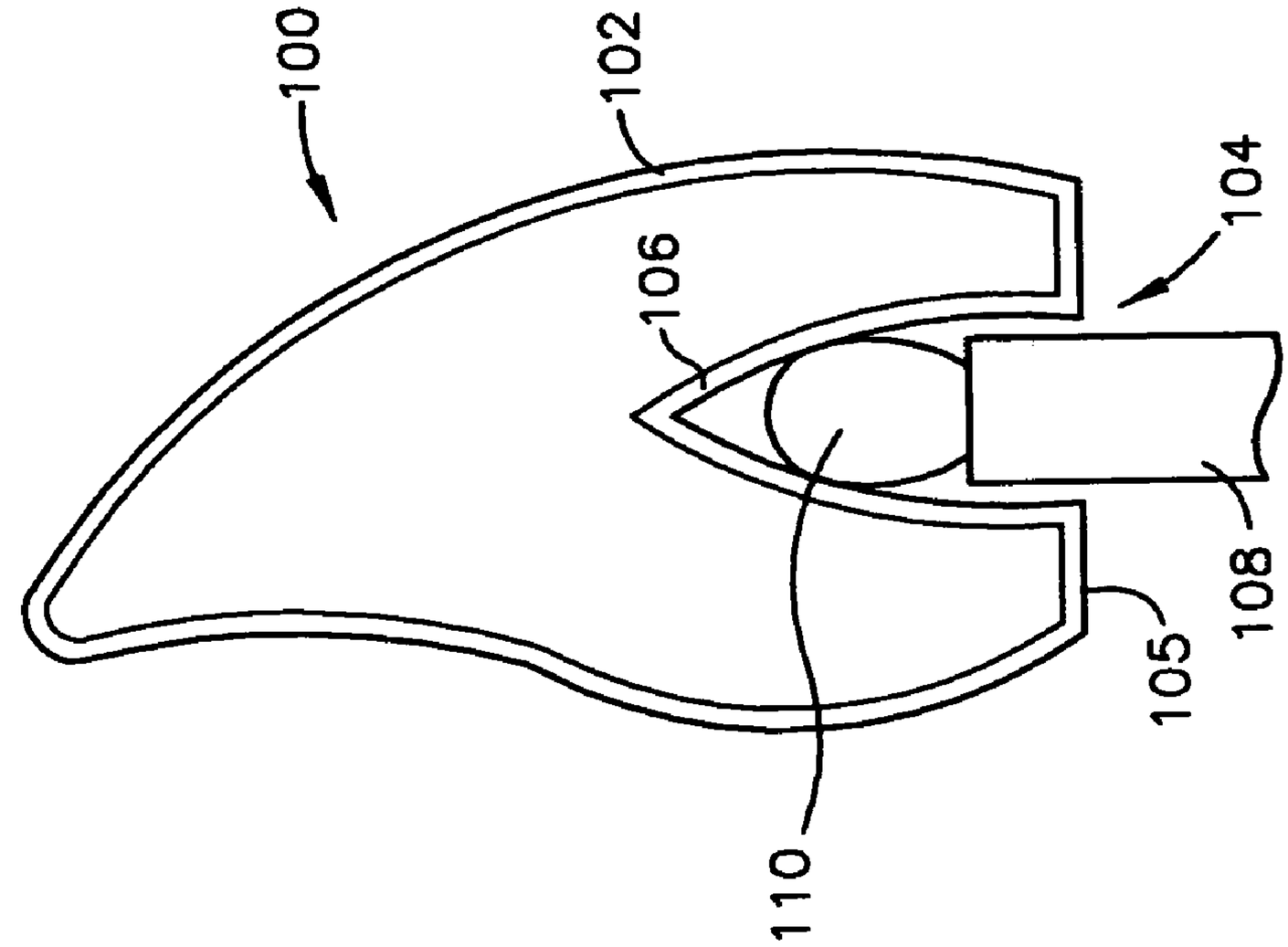


FIG. 12

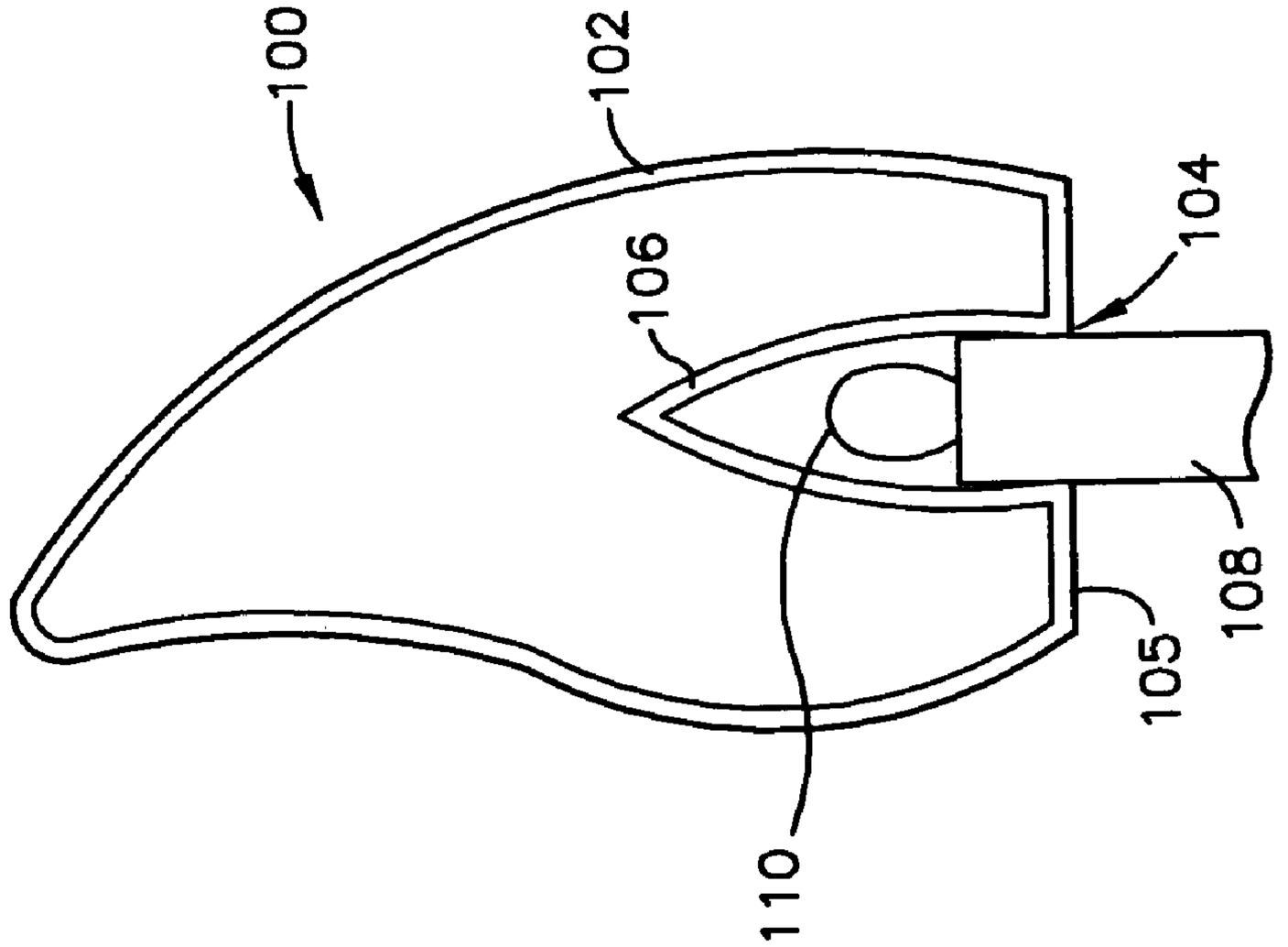


FIG. 11

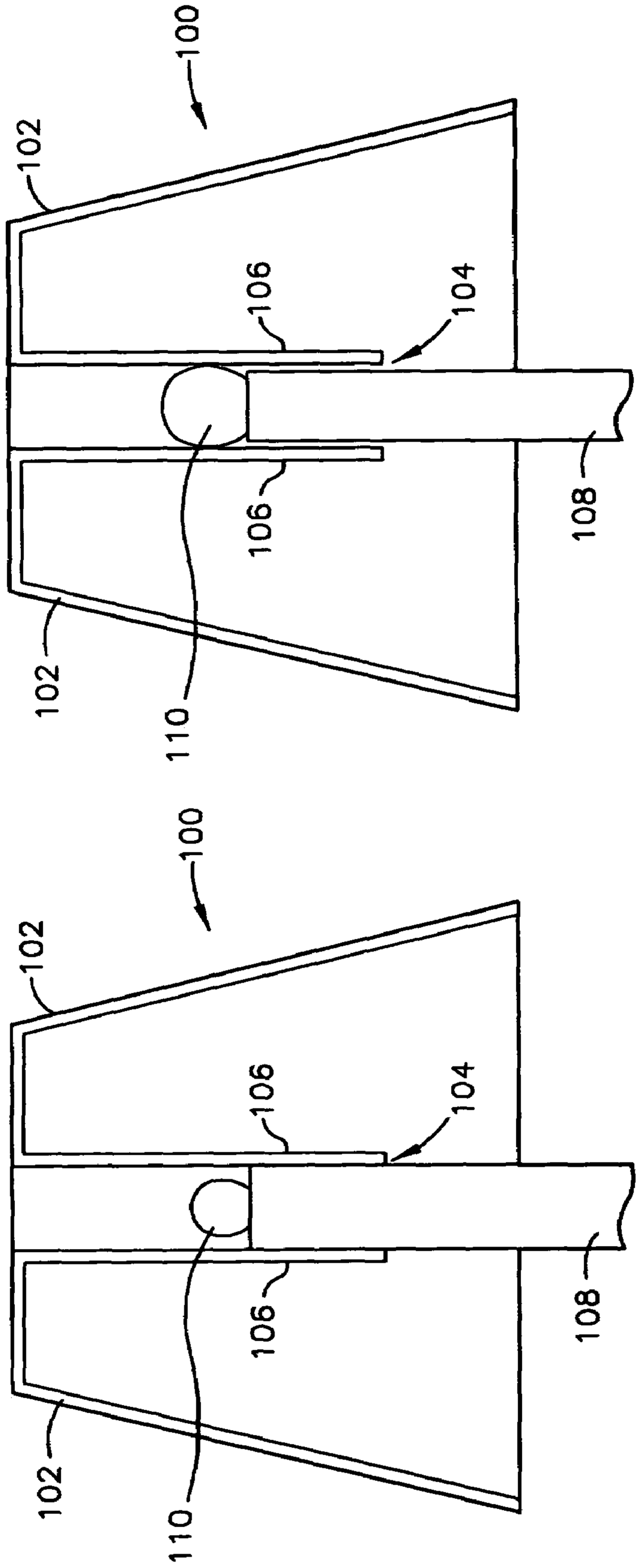


FIG. 14

FIG. 13

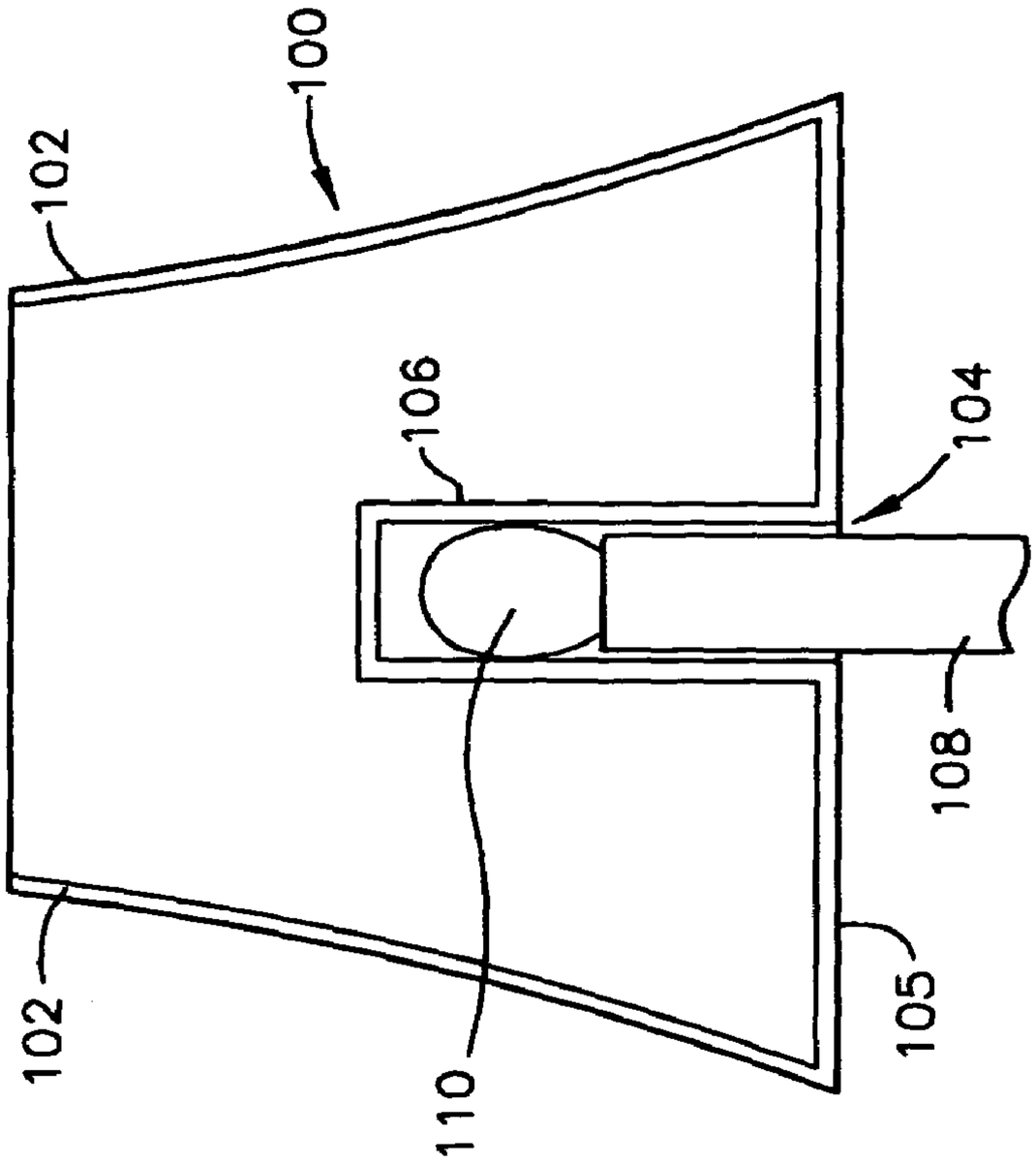


FIG. 16

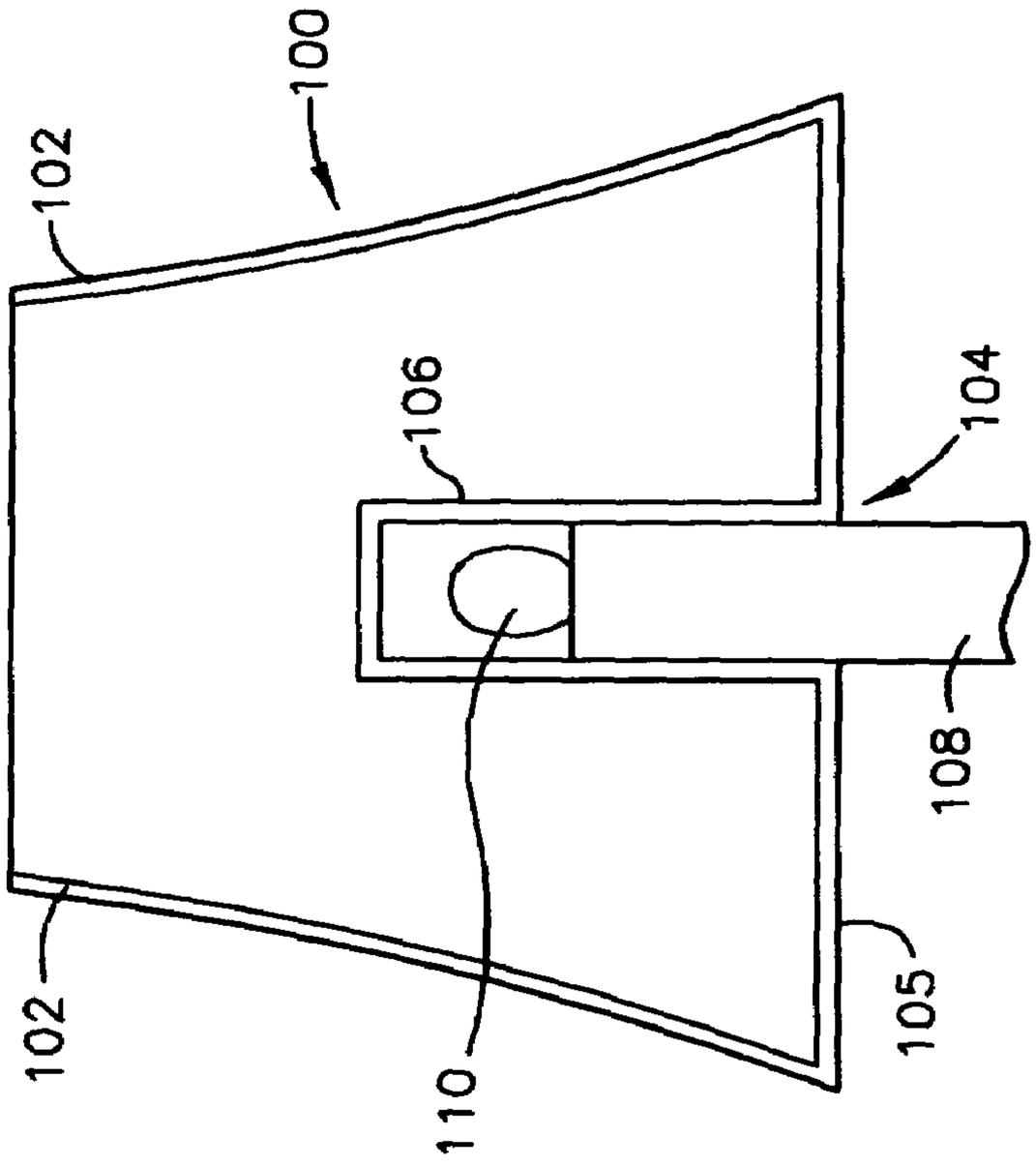


FIG. 15

DECORATIVE LAMP COVER

This application is a continuation-in-part of U.S. patent application Ser. No. 10/274,592 filed, Oct. 21, 2002 now U.S. Pat. No. 6,746,136 and Ser. No. 10/418,331 filed Apr. 18, 2003 now U.S. Pat. No. 6,902,297 and herewith.

FIELD OF THE INVENTION

The present invention relates to lamp shades or covers and more particularly to such devices for primarily exterior lighting applications that are durable, readily interchangeable and fashionably decorative.

BACKGROUND OF THE INVENTION

Decorative exterior lighting, for example along walkways, driveways and in garden areas, has become very popular. Such lighting can be low voltage, i.e. 12/24 volts driven by a transformer or solar powered, or 110 volts (in the U.S.). Low voltage lighting produces relatively small amounts of heat and thus is low temperature, while the more conventional incandescent lighting produces significant heat and higher temperatures, on the order of several hundred degrees Fahrenheit. The latter situation is particularly prevalent in the case of pole lighting fixtures and sconces such as are used on either side of doors.

Similarly, the use of "theme" decorations around homes during the different festive seasons of the year, e.g. Halloween, Thanksgiving, Christmas, etc. is also common. It has therefore been found desirable to use existing exterior lighting fixtures as the basis for the installation of such theme decorations at the appropriate times of the year.

Until the present time, most such decorative devices associated with, for example, exterior lighting as described above, have comprised inexpensive lamp shades or covers fabricated from paper or inexpensive plastics that are designed to surround the entire lighting fixture at a safe distance so as not to expose the shade or cover to heat from the lighting device. Such prior art devices are, largely because of their materials of fabrication, not sufficiently weather, UV, etc. resistant as to be satisfactorily used more than about one season before disposal. Additionally, because of their design to surround the entire fixture much like a sack or bag, (due to the large number of differing shapes and designs of such lighting fixtures) their location upon the lighting fixture can be disturbed by, for example, wind thereby disrupting their decorative value.

It would therefore be desirable to have decorative covers or shades for, for example, exterior lighting that provide easy interchangeability without the use of tools and secure attachment to such lighting fixtures while being fabricated from materials that exhibit superior UV, weather, etc. resistance thereby providing many years of useful service.

OBJECTS OF THE INVENTION

It is therefore an object of the present invention to provide a durable and highly decorative lamp cover for, for example, exterior lighting devices that is readily interchangeable, heat, weather and UV resistant and that can be safely and securely attached to both high and low voltage lighting systems.

SUMMARY OF THE INVENTION

According to the present invention, there is provided a lamp cover comprising a hollow pliant shell having an exterior surface in the form of a decorative shape and an interior surface having pliant ribs extending inwardly from the interior surface, or an integral interior cylinder which ribs or cylinder are of a size and shape as to frictionally or elastically engage the exterior of a light fixture lens, bulb cover or bulb. According to a preferred embodiment, the lamp cover is fabricated from a pliable and high temperature resistant polymeric material that permits its close contact with a low voltage or conventional light bulbs.

DESCRIPTION OF THE DRAWINGS

The invention will be best understood when the following detailed description is read in light of the accompany drawings wherein like numerals refer to like features and wherein:

FIG. **1** is a partially phantom front view of one embodiment of the lamp cover of the present invention.

FIG. **1A** is partially phantom front view of another embodiment of the lamp cover of the present invention.

FIG. **2** is a bottom view of the embodiment depicted in FIG. **1**.

FIG. **3** is an elevational view of one type of lighting fixture to which the lamp cover of the present invention can be applied.

FIG. **4** is a partially phantom rear view of the embodiment of the lamp cover of the present invention depicted in FIG. **1** applied to the lighting fixture depicted in FIG. **3**.

FIG. **5** is a partially phantom rear view of the embodiment of the lamp cover of the present invention depicted in FIG. **1** applied directly to a low voltage bulb inserted into a suitable lighting fixture.

FIG. **6** is a partially phantom rear view of the lamp cover of the present invention depicted in FIG. **1** applied to a globe of the type used to surround a conventional incandescent lamp inserted into a suitable lighting fixture.

FIG. **7** is a partially phantom rear view of the lamp cover of the present invention depicted in FIG. **1** applied directly to an incandescent light bulb inserted into a suitable lighting fixture.

FIG. **8** is a top plan view of one embodiment of the lamp cover of the present invention showing recesses for the addition of coloring or other agents.

FIG. **9** is a cutaway side view of one embodiment of the lamp cover of the present invention.

FIG. **10** is a bottom view of one embodiment of the lamp cover of the present invention.

FIG. **11** is a cutaway side view of an alternative embodiment of the lamp cover of the present invention.

FIG. **12** is a cutaway side view of yet another alternative embodiment of the lamp cover of the present invention.

FIG. **13** is a cutaway side view of a further alternative embodiment of the lamp cover of the present invention.

FIG. **14** is a cutaway side view showing an additional alternative embodiment of the lamp cover of the present invention.

FIG. **15** is a cutaway side view showing an additional alternative embodiment of the lamp cover of the present invention.

FIG. **16** is a cutaway side view showing a final alternative embodiment of the lamp cover of the present invention.

DETAILED DESCRIPTION

Referring now to FIGS. **1**, **1A** and **2**, the lamp cover **10** of the present invention comprises a hollow pliant shell **12** having an exterior surface **14** the provide some type of decorative shape, in the case of FIG. **1** a "pumpkin" or "jack-o-lantern" of the type used in Halloween decorations

and in the case of FIG. **1**A a snowman of the type that would be used for a Christmas or winter decoration. As will be described in greater detail hereinafter, lamp cover **10** is preferably at least partially translucent and partially opaque to permit proper display of the exterior decorative shape and details thereof when applied to a lighting fixture as described below. According to the embodiment depicted in FIGS. **1**, **2** and **4**–**7** lamp cover **10** also has an interior surface **16** from which extend inwardly a plurality of pliant ribs **18** whose purpose, as described below, is to engage a light bulb, lens, globe or lighting fixture to which lamp cover **10** is applied through insertion of the light bulb or lighting fixture through aperture **20** in the bottom of lamp cover **10**. The term "pliant" as used herein to describe the various elements of lamp cover **10** is meant to mean that the elements are bendable or flexible while of sufficient structural strength as to retain their shape unless pressure is applied thereto to deform them. Additionally, while it is preferred that hollow pliant shell **12** and pliant ribs **18** be fabricated from the same material for ease of fabrication as described below, it is contemplated that the hollow pliant shell and the pliant ribs could be fabricated from dissimilar pliant materials.

As alluded to above, it is preferred in many applications that while the bulk of lamp cover **10** be translucent, that certain portions thereof be opaque. This is perhaps best exemplified in the case of the embodiment depicted in FIG. **1** wherein the eyes **21**, nose **23** and mouth **25** of the "jack-o-lantern" shape depicted in FIG. **1** be made opaque by the application of, for example, paint or some other suitable opacifying agent in these areas so as to project the properly defined image when lamp cover **10** is applied over a lighting fixture or bulb as described below. While it is not critical to the successful practice of the present invention, it is also preferred that areas such as **21**, **23** and **25** be recessed into outside surface **12** of lamp cover **10** as perhaps best shown in the case of eyes **21**, for example, in FIG. **8**.

Shown in FIG. **3** is a so-called "mushroom" lighting fixture **30** of a type commonly used for exterior lighting along the edges of walkways, driveways, etc. The essential elements of lighting fixture **30** are a stake portion **32** for insertion into the ground, a socket **34** and a mushroom-shaped cap or lens **36** whose purpose if to diffuse light produced by the enclosed light bulb (not shown in FIG. **3**) and to give it a "mushroom" shape. As shown in FIG. **4**, according to one embodiment of lamp cover **10** of the present invention is applied to lighting fixture **30** by application of lamp cover **10** over mushroom-shaped cap or lens **36** by insertion of mushroom-shaped cap or lens **36** into aperture **20** in the bottom of lamp cover **10** and engagement of custom fabricated ribs **18** with mushroom-shaped cap or lens **36**. When thus applied over mushroom-shaped cap or lens **36**, light emanating from mushroom-shaped cap or lens **36** is transmitted through the translucent portions of lamp cover **10** while the opacified portions, for example areas **21**, **23** and **25** of FIG. **1**, do not transmit light. In this fashion, the image of a "jack-o-lantern" is replicated at each lighting fixture **30** to which lamp covers **10** are applied. For clarity, features **21**, **23** and **25** have not been shown in FIGS. **4**–**7**, however, their location and purpose will be readily apparent to the skilled artisan reading this description, and the location and topography of specific eye area **21** as it relates to surface **12**, depicted clearly in FIG. **8**.

In the embodiment depicted in FIG. **5**, lamp cover **10** of FIG. **1** is applied directly to a low voltage light bulb **40** with inwardly extending ribs **18** engaging the outer surface of low voltage bulb **40**, after, in certain instances, socket **34** and low voltage bulb **40** having been inserted through aperture **20**. In most instances, it is not necessary that socket **34** be inserted through aperture **20**, but it may be so inserted depending upon circumstances or the design of the particular lighting fixture to which lamp cover **10** is applied.

Similarly, as shown in FIG. **6** because of the character of the materials of fabrication of lamp cover **10** as described in detail below, lamp cover **10** can be applied to a globe **42** that surrounds a conventional incandescent bulb **44** contained in a socket **43** through the engagement of ribs **18** with the exterior surface of globe **42**.

In yet a further embodiment of the lamp cover of the present invention depicted in FIG. **7**, lamp cover **10** is placed over incandescent bulb **44** through the insertion of bulb **44**, mounting member **46** and socket **45** through aperture **20** in lamp cover **10**. In this embodiment, ribs **18** engage directly incandescent lamp **44**.

As will be apparent to the skilled artisan, pliant ribs **18** in each of the foregoing embodiments may have a different configuration depending upon the particular lighting fixture or bulb structure with which they will be required to engage. Since it is contemplated that in one of its claimed embodiments, lamp cover **10** will be packaged with a specific fixture such customization of the shape of pliant ribs **18** is relatively simple. In other embodiments, because of the relative uniformity of low voltage and conventional incandescent bulbs, the problem of rib customization is not particularly difficult. In many instances, because of the high degree of pliability of the preferred materials of fabrication described below, the shape of pliant ribs **18** can vary widely but still be such as to engage a broad variety of lighting fixture structures without significant customization.

While in those instances, for example that depicted in FIG. **5**, where pliant ribs **18** engage a relatively low temperature low voltage bulb **40**, lamp cover **10** can be fabricated from a variety of pliant polymeric materials, in those instances, for example that depicted in FIGS. **6** and **7**, where lamp cover **10** is exposed to the relatively high temperatures produced by conventional incandescent bulbs, lamp cover **10** is preferably fabricated from a pliable high temperature polymer as described below.

Referring now to FIG. **9** that depicts yet another embodiment of the lamp cover **10**A of the present invention, lamp cover **10**A is assembled upon a cylindrical lamp cover base assembly **50**. In accordance with this embodiment, lamp cover **10**A comprises shell **12**A that may and preferably does have an aperture **52** in the top **54** thereof through which can be inserted a tab **56** or the like that can serve as an attachment point for, for example, a pumpkin stem **58** or the like, depending upon the particular shape or configuration of shell **12**. Such an arrangement allows for the secure attachment of shell **12**A to lamp cover base **50** through the mechanism of stem **58** or the like serving as a "snap" or other securing fitting.

As best seen in FIG. **9**, it is lamp cover base assembly **50** that provides a broad range of lamp cover attachment options and which forms an important aspect of the lamp cover system of the present invention. Lamp cover base assembly **50**, as previously described comprises a cylindrical core **60**, open at one end **62** and closed at the other end **64**. Internal to lamp cover base assembly **50** cylindrical core **60** proximate closed end **64** are preferably pliant orthogonal ribs **18** which like ribs **18** previously described in connection with FIGS. **1**–**3**, etc. serve to engage a light bulb **40** over which shell **12**A is installed by passage of aperture **20** over the base of a light fixture **34** as shown in FIG. **5**. In this instance, however, it is cylindrical core **60** that directly engages light fixture **34** with ribs **18** directly engaging light

bulb **40**. In the embodiment depicted in FIG. **9** light bulb **40** is a low voltage bulb of perhaps between about 5 and 24 volts depending upon the particular lighting system utilized. In this alternative configuration, cylindrical core **60** is firmly and securely attached to light fixture **34**. Similarly, associated and attached shell **12** of lamp cover **10** is also firmly and securely attached to cylindrical core **60** and light fixture **34** through the mechanism of tab **56** previously described.

While as described hereinabove, lamp cover base assembly **50** is described as a separate and distinct element from shell **12**A of lamp cover **10**, it will be apparent to the skilled artisan that using the materials of construction described below, or similar readily molded or formed materials, that lamp cover base assembly **50** can be formed as an integral part of shell **12**A and the entire assembly of elements **12**A and lamp cover base assembly **50** formed as a single integral unit with, as in the case depicted in FIG. **8**, even stem **58** being an integral part of the entire assembly. The advantage of lamp cover base assembly **50** being a separate element from shell **12**A, for example, is however, that a single lamp cover base assembly **50** can be attached to light fixture **34** and bulb **40** and a variety of shells **12** interchangeably attached thereto without the need to remove cylindrical core **60** from light fixture **34** through the use of tab **56** or a similar shell attachment mechanism. The advantages of such ready interchangeability will be readily apparent to those skilled in the arts to which this invention pertains.

Similarly, while lamp cover base assembly **50** is described hereinabove as having an open end **62** and a closed end **64**, it will be readily apparent to the skilled artisan that closed end **64** could incorporate one or more apertures that might serve as vents for the release of heat produced by an incorporated light bulb **40**.

According to a preferred embodiment of the present invention, lamp cover **10** is fabricated by molding, injection molding, blow molding, etc. a high temperature resistant silicone polymer or silicone rubber. Such materials are commonly available as liquids or gums suitable for fabrication as just described and exhibit temperature capabilities upwards of 200° C., which is adequate for direct exposure to the temperatures produced by a conventional incandescent bulb. Additionally, these materials are very pliant and very good electrical insulators, thus protecting the user from the danger of electrical shock in the applications described herein. Furthermore, these materials are weather resistant, thus making the lamp covers of the present invention suitable for outdoor use and extremely durable providing that they can be used for many years.

Such silicone polymers and silicone rubbers are of the type commonly used in such applications as rubber stoppers, industrial packaging, diaphragms, rollers etc., and demonstrate percent elongations in the range of about 300 to about 400 percent. These materials are easily colored through the use of conventional pigments and coloring agents, and such coloring techniques are well known to those skilled in the art of molding such materials. This ability to be colored is of particular value in the lamp covers of the present invention as, for example in the case of the "jack-o-lantern" depicted in FIG. **1**, where the hollow pliant shell can be colored orange to mimic the color of a pumpkin while in the case of the shape depicted in FIG. **1**A the hollow pliant shell can be colored principally white to project the image of a snowman. In the embodiment depicted in FIG. **1**, eyes **21**, nose **23** and mouth **25** could be rendered opaque using a black or other paint applied to the outer surface of hollow pliant shell **12** to properly project the image desired.

A particularly preferred class of silicone polymers are those supplied under the trademark Winthane™Silicone elastomers that are available from Winfield Industries, 852 Kensington Ave., Buffalo, N.Y. 14215 as liquids and when fabricated retain their physical properties over a very wide range of working temperatures, minus 60° C.–+230° C. Fabrication of lamp cover **10** from pliant materials such as these further simplifies the insertion of the lighting fixture or portions thereof through aperture **20** in the bottom of lamp cover **10**.

While as described above, the use of pliant ribs at the interior of the lamp shade constitutes a preferred embodiment of the present invention, similarly useful results can be obtained using the structures shown in FIGS. **11**–**16** wherein rather than pliant ribs engaging the light bulb inserted into a fixture, the lamp shade structure is provided with an inherently elastic integral interior cylinder that can engage either the light bulb or the top portion of the fixture into which the light bulb is inserted as described hereinafter. The elasticity of the silicone material from which the lamp shade is fabricated is adequate to permit "stretching" of the integral interior cylinder over either the light bulb or the light fixture as depicted in the attached FIGS. **11**–**16**.

As used hereinafter, the term "cylinder" is meant to mean and define any structure having a peripheral wall, an open bottom and an open or closed top. The "cylinder" may be of any suitable shape, i.e. round, square, octogonal etc. so long as it has an open bottom and elastic peripheral walls suitable for engagement with a bulb or fixture as described herein.

As shown in FIGS. **11** and **12**, a lamp shade of this type **100** comprises an outer shell **102** having an aperture **104** in the bottom **105** thereof, which aperture provides access to an integral cylinder **106** that engages through stretching of the peripheral wall of cylinder **106** either: a fixture **108** into which a light bulb **110** is inserted (see FIG. **11**); or light bulb **110** inserted into fixture **108** (see FIG. **12**). As can be seen in FIGS. **11** and **12**, cylinder **106** is integrally formed with bottom **105** and outer shell **102**. In the embodiments depicted in these Figures, it is clear that cylinder **106** should be translucent in order to permit light emitted by light bulb **110** to be visible through outer shell **102**. In the embodiment depicted in these Figures, cylinder **106** is closed at its top **112**.

Referring now to FIGS. **13** and **14**, lamp shade **100** in these embodiments is of a different shape but includes an outer shell **102**, a bottom **105** having an aperture **104** therein and an elastic integral interior cylinder **106** and includes an open top **114**. In the embodiments depicted in these two Figures, interior integral cylinder **106** engages: either fixture **108** (see FIG. **13**); or light bulb **110** through stretching of the peripheral wall of cylinder **106**.

According to the alternative embodiments depicted in FIGS. **15** and **16**, interior integral cylinder **106** is provided with a closed top **112** in much the same fashion as the embodiment depicted in FIGS. **11** and **12**, but in this case the top **116** of outer shell **102** is open to allow for the escape of additional light emitted by light bulb **110**.

As is apparent from a review of FIGS. **11**–**16**, interior cylinder **106** may elastically engage either fixture **108** as in the cases depicted in FIGS. **11**, **13**, and **15** wherein a low voltage bulb is inserted into fixture **108**, or bulb **110** as depicted in FIGS. **12**, **14** and **16** where a high voltage or conventional light bulb **110** is used.

As will be apparent to the skilled artisan, interior cylinder **106** may include ribs of the type described in connection with the embodiments depicted in attached FIGS. **1**–**10**, if desired without departing from the scope of the invention.

Similarly, a lens or globe may be mounted over the light bulb in the embodiments of FIGS. **11**–**16** in the same fashion as represented in FIGS. **1**–**10**.

As with the previously described embodiments of the present invention described in connection with FIGS. **1**–**10**, the hollow pliant shell is preferably translucent while portions thereof may be rendered opaque so as to define elements such as eyes and the like as described in connection with the earlier embodiments.

While the invention has been described largely in the context of flexible unitized shells preferably have pliant interior ribs or an integral interior cylinder that elastically engages a bulb or fixture to which the shells are applied, it will be apparent to the skilled artisan that the basic concept can be expanded upon with very little substantial modification. For example, the lamp cover of the present invention as described in connection with FIGS. **1**–**10** could be fabricated from metal, stone, etc. With translucency provided in cut-outs in those areas described hereinabove as preferably opaque and opacity provided in those areas previously described as translucent due to the inherent opacity of the material of fabrication. Thus, a pumpkin shape as depicted in FIG. **1** could be provided with eyes **21**, nose **23** and mouth **25** all cut out of a metallic or stone shell. In such an instance, ribs **18** extending from the interior surface of shell **12** interior surface could be of the same or different materials. If of the same material as that of shell **12** as just described, ribs **18** might or might not be pliant or only limitedly pliant depending upon the material of fabrication. For example, if shell **12** is fabricated from a metal such as steel ribs **18** could be rigid instead of pliant and custom made to accommodate their engagement with a specific bulb or globe configuration. Alternatively if shell **12** were made of steel, ribs **18** could still be pliant by fabrication thereof from a suitable rubber or polymeric material that was adhered or otherwise attached to the interior surface of shell **12**. Thus, a wide variety of variations and modifications of the invention described herein are possible and contemplated by the inventors hereof.

There has thus been described a variety of embodiments of a novel decorative lamp cover suitable for the interchangeable (without the use of tools) decoration of lighting fixtures with the change of festive seasons or holidays. The lamp cover of the present invention provides a weather resistant, temperature resistant and durable decorative element that can be used for many years and in differing locations.

As the invention has been described, it will be apparent to those skilled in the art that the same may be varied in many ways without departing from the spirit and scope thereof. Any and all such modifications are intended to be included within the scope of the appended claims.

What is claimed is:

1. A lamp cover comprising:

A) a hollow pliant shell having an interior surface and an exterior surface in the form of a decorative shape; and

B) a translucent interior cylinder integrally formed with said hollow pliant shell having opposing first and second ends, said first opposing end being at least partially closed and integral with said hollow pliant shell and said second opposing end including an aperture for the insertion of and engagement with at least a portion of a light fixture, light fixture lens, bulb cover or bulb to which the lamp cover is applied and encompassing at least a portion of said bulb, and physically separating said bulb from said interior surface of said hollow pliant shell.

2. The lamp cover or shade of claim **1** wherein said hollow pliant shell is translucent and portions of said hollow pliant shell are rendered opaque.

3. A decorative lamp comprising:

A) a lighting fixture having an exterior surface and including a socket, and a light bulb;

B) a hollow pliant shell having an interior surface and an exterior surface in the form of a decorative shape; and

C) a translucent interior cylinder integrally formed with said hollow pliant shell having opposing first and second ends, said first opposing end being at least partially closed and integral with said hollow pliant shell and said second opposing end including an aperture for the insertion of and engagement with at least a portion of a light fixture, light fixture lens, bulb cover or bulb to which the lamp cover is applied and encompassing at least a portion of said bulb, and physically separating said bulb from said interior surface of said hollow pliant shell.

4. The decorative lamp of claim **3** wherein said hollow pliant shell is translucent and portions of said hollow pliant shell are rendered opaque.

* * * * *